Dresdner

United States
Telecom Services

21 August 2002

UNe-P: the Un-Profit

Regulation pressuring RBOC profits

Industry update

RBOCs' core profit center is under severe attack from competitive forces. Regulators have reduced UNE pricing such that CLECs are using UNE lines to penetrate the residential and small business markets. In our view, until UNE pricing becomes more rational, the RBOCs will suffer steeper profitability squeezes from CLECs using UNE lines.

Hold

BellSouth Corporation
Qwest Communications
SBC Communications
Verizon Communications

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- **CLEC penetration rising:** By the end of 2001, according to the FCC, CLECs accounted for 10.2% of the nation's 192m switched lines, up from 7.7% 12 months earlier, a 32% increase in market share. Cable telephony lines are increasing at a slightly faster rate than overall CLEC lines. By the end of 2001, according to the FCC, cable telephone lines constituted 11% of CLEC lines (2.2m lines), and 1% of all switched lines.
- **Lost ILEC profits:** ILECs lost 1.5m lines in the last six months of 2001 in the form of UNEs (unbundled network elements) to CLECs, which we estimate comes to $1bn in lost annualized sales, most of which is pure profit. In a six-month span, then, after taxes, ILEC bottom lines lost about $325m in net income, and $4.2bn in market capitalization, assuming a 13x P/E multiple. The Bells control about 94% of the nation's incumbent access lines, so the RBOCs, primarily through UNE, lost $4bn in market capitalization in the last half of 2001. The Bells currently have a $220bn equity market cap, meaning that CLECs conceivably destroyed 2% of Bell equity value in the H2 2001.
- **Some CLEC overbuilding:** In H2 01, CLECs gained 2.4m lines, which we believe was created exclusively at the expense of the ILECs, or 19,000 lines per business day. Some of these lines are lost to cable telephony or where CLECs build their own connections directly to businesses. In such cases, the CLEC has overbuilt, or completely severed the connection between the ILEC and the customer, removing the ILEC from 100% of their former revenue stream.
- **Ratings:** We maintain our Hold ratings on BellSouth Corp., Qwest Communications, SBC Communications and Verizon Communications.

Online research: www.drkwresearch.com **Bloomberg:** DRKW<GO>

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Investment summary and conclusion

Regulators are forcing unprofitable resale pricing upon the local industry through UNEs

The concern isn't the CLECs; with a weak capital market, and the techno bubble-burst, the money CLECs need to build out a local network IS NOT available in the public or bank markets. Ironically, the impact of CLEC competition has never been more NEGATIVE for RBOCs (we interchange the terms RBOCs and ILECs). Why? Because the regulators are forcing unprofitable resale pricing upon the local industry through Unbundled Network Elements, or UNEs. What are UNEs?

UNEs are network 'elements' – switching, copper lines, data base hookups, fiber trunks into office buildings, etc., that the RBOC is forced to lease to the CLEC. When a CLEC uses UNEs INSTEAD of building out its own copper loops, switches, etc., it avoids major capital expense, and 'rides' the RBOCs' investments made over decades. When capital flowed freely to CLECs in the 1990s, CLECs took that money and decided to build their own networks. At the time that seemed to be a rational decision: money would be available from Wall Street 'forever', and an owned network would be more profitable than a leased one – eventually. Unfortunately for those CLECs that overbuilt over wide geographic territories, i.e., the "XOs" of the world that decided there was a business case for a 'national – local' infrastructure that served (in retrospect) way too many cities, thereby never achieving density – the key to local profitability – the capital markets dried up. Left, were the liquid competitors to the Bells; AT&T and MCI (until now), who, over the last two years, have taken up UNE, or leasing, rather than constructing a second local network, as the means to compete. WHY?

AT&T and MCI are very concerned about losing long distance customers to the RBOCs. So even if UNE isn't as profitable as owning your own network, by being able to offer local service promptly (which UNE enables) and at a decent profit (which UNE enables), the long distance carriers can combat long distance customer defection, making THEIR foray into leasing local services more profitable by avoiding lost long distance revenues, than an "XO" could have.

- Hence, the recent rapid entry into long distance by the RBOCs has been accompanied by a rapid expansion of the use of UNEs by CLECs, principally AT&T and MCI.
- States rule over the Feds on local telephony. States have been widening the UNE discount – to the detriment of the RBOCs – as a quid pro quo to RBOC long distance entry. Local profit margins are much fatter (45%) than long distance margins (25%), so the current trade-off is a loser for the RBOCs.

- The discount has caused much more rapid CLEC UNE use. This was seen most recently in California, where the CA PUC has recently ruled that SBC can provide long distance (SBC still must apply at the FCC). In the case of CA, AT&T got lower UNE rates BEFORE SBC was able to get into long distance, causing a timing-engendered loss as well.

Which regulators? Well, first the FCC, which took the 1996 Act that did not specify particular UNEs or what price they should be made available at. The last FCC made a long list of UNEs and set severe discount 'frameworks' to those UNEs. Then the states got into the act by setting the actual UNE rate, i.e., the discount from retail rates offered to an RBOC's customers. These discounts can be as high as 65%! At the margin, such revenue loss, accompanied by continued network costs, results in almost one-for-one profit loss – **thus, the UNE is highly profit-destructive**.

The regulators may allow three to four vertically and horizontally integrated providers

The only saving grace is that MCI has serious financial difficulties, and could be forced to abandon its UNE expansion program – to the Bells' benefit. In addition, AT&T, which is in much better financial shape, and can, we estimate, survive on its own for years, could be bought out by a Bell if the current telecom meltdown continues. In other words, the regulators – the FCC and DOJ – may allow the oligopolization of the telecom industry, where there are three to four vertically and horizontally integrated providers. That is, three to four old Ma Bells.

- For investors, we believe that the Bells are trading near historically low multiples of EBITDA, which is the most important barometer of value, in our view. However, UNE is, at the margin, so value destructive, that we would be HOLDERs, if and until the regulators become more realistic. And if they don't, shareholders might be rewarded by a severe downsizing of MCI and/or absorption of AT&T by a Bell. **Conclusion: Hold**.

"The cream skim" – business, population density and demographics

The current competitive policies favor rich residential customers, large businesses and states with greater population density.

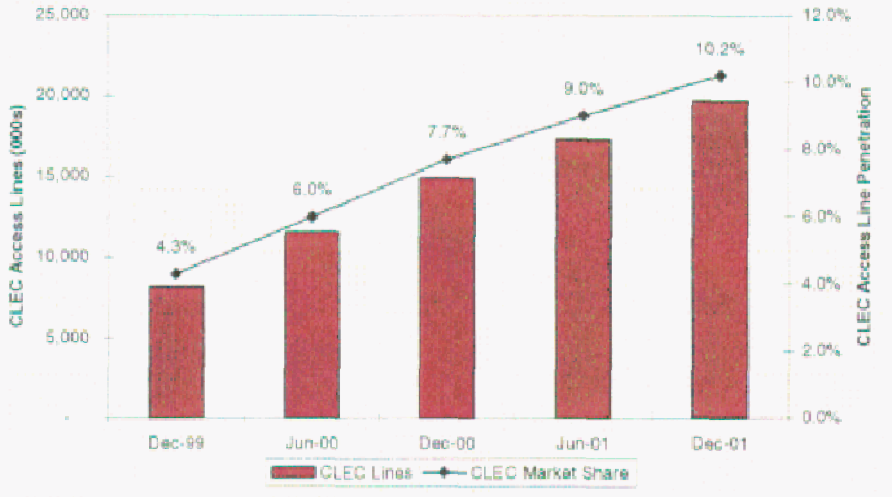
45 of CLEC lines served residential and small business markets

According to the FCC, 55% of CLEC lines served medium and large businesses and government customers. In contrast, just 23% of ILEC lines served such customers. **Conversely, 45% of CLEC lines served residential and small business markets, while over 75% of Bell lines served lower profit residential and small business lines.** Businesses and government offices are more densely packed, and spend more per access line than residents.

Thus, the ILECs are left holding the 'bag' – serving more of the costly (read: geographically dispersed) and lower paying line base. We view the 'cream skim' as *one of the most compelling arguments that local competition regulation is destructive* and illogical.

Year-end 2001E CLEC line composition

Figure 1: CLEC access lines, 1999-2001



23 July 2002

Source: FCC

Overbuild: 33%, but in key sectors much lower

The goal of the 1996 Act was to create the environment for local competition, not create local competition

Of the 33% overbuild percentage, we estimate that under 5% of residential lines are overbuilt lines. We believe this is a *telling* statistic and perhaps the most important in this report. In the US at year-end 2001, there were 134m residential and small business access lines. The majority of overbuilt lines are business lines, with a concentration on medium and large sized businesses. Our view is that the current rules forcing RBOCs to resell local lines to CLECs at very deep discounts are off course. **The goal of the 1996 Act was to create the environment for local competition, not create local competition.** Although seemingly subtle, this is a huge distinction. The idea is that to produce new, exciting services and pricing programs requires a competitor to provide new, exciting services. How can that occur if the CLEC is reselling the RBOCs' service? With only a 33% overbuilding rate, the desired outcome of the Act is unaccomplished. The idea was to give the CLECs a means to build customer scale upon which they could then justify building their own network, since this is an industry of scale. In point of fact, the growth in UNE lines is accelerating, despite the fact that the base of CLEC customers is also expanding. With UNE, the CLECs are merely behaving as rational decision makers. If it's cheaper and less risky to resell rather than build, then resell is the answer. Unlike the long distance industry, which is less of a natural monopoly since it takes just severalbn dollars and two to three years to build a national network, except for the cream of the business market and the cream, i.e., demographically desirable (read: rich homeowners who can buy many services) residential market, a new national local network is unlikely to emerge. We won't get into "what ifs," but under a more rational local competitive framework, overbuilding might have occurred to a greater extent.

Sinking the sunk costs

Cable telephony penetration is increasing even faster than overall CLEC penetration

Overbuilding erases any revenue contribution from former customers or prospective customers that would have used a Bell if an overbuilding CLEC wasn't around. It fully 'strands' the lines' assets. The business base is easier to overbuild because they are located in office buildings and otherwise packed more densely. So the 'cream skim' has been accompanied by the 'overbuild.' That is, for years, CLECs such as Time Warner Communications, AT&T Business and WorldCom's MFS (although we believe one of WCOM's downfall was its inability to leverage the MCI long distance base and 'backsell' an MFS local product into it) have been building their own trunks into business locations, either fully bypassing the ILEC, or perhaps renting minimal network subsegments such as the last link into a building. Now, cable telephony is copying the CLECs on the residential side. By piggybacking onto the cable television network, they found an economical way to overbuild the less dense residential base, a danger to the Bells that have concerned us for some time. FCC statistics show cable telephony penetration increasing even faster than overall CLEC penetration, and AT&T Broadband reported in Q2 02 that, for the first time, its cable telephony operations are EBITDA-positive, validation that a means to 'crack' the natural monopoly in the local residential market exists. It still takes a lot longer to deploy a cable telephony line than a UNE line. Thus, cable telephony is probably impacting residential lines' margins, but not taking significant market share yet.

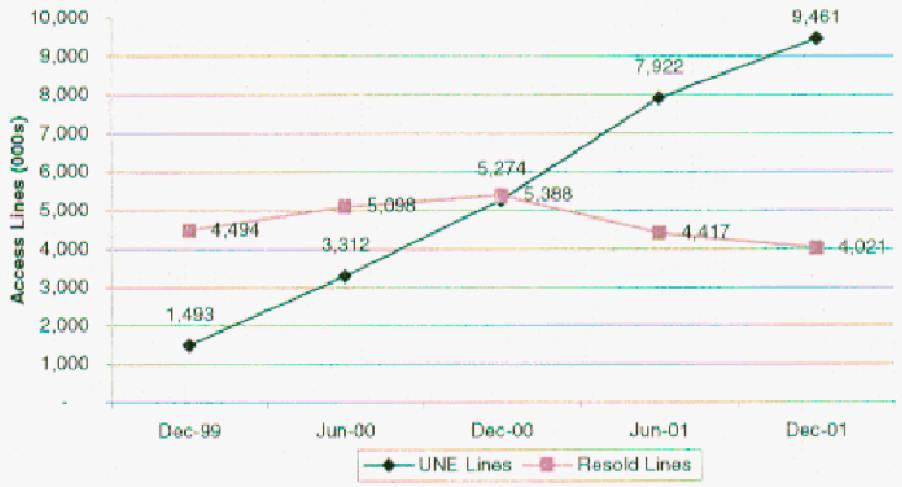
The bottom line is that competition comes in two flavors: reselling the RBOCs' network, or overbuilding. The Bells argue that low UNE rates, which can force an RBOC to resell a local line to a CLEC such as MCI "Neighborhood" for as much as 70% off of retail, aren't so bad because they at least provide some revenue across a high fixed cost structure. Also, since the line is deployed already (**sunk cost**), and only minimal cash is required to operate that line, an RBOC would select UNE to overbuilding as the lesser of two evils. We agree. However, with overbuilding now taking place in the business and residential ends of the local market, we expect that the value of the RBOCs' plant, i.e., their sunk costs, are falling, **and that plant write downs loom**. Again, the overbuilding is concentrating in the large business arenas and will occur for plant that serves large businesses, not the residential market.

Resale: 22%, down from 43% two years earlier

UNE-P lines add 20 -40 points of gross margin to a CLEC

Resale is uneconomical for CLECs, so they are dropping resale lines or changing them to a UNE-P "lines" regime, which are functionally equivalent, but add 20%-40% points of gross margin to a CLEC.

Figure 2: UNE vs. resold lines, 1999-2001



As of 23 July 2002

Source: FCC

UNE: 47% (24% at YE 1999) – erased 2% of bell equity?

UNE-P has made it possible for AT T and MCI to compete in the residential arena

The UNE platform is growing rapidly in use. To the CLEC the only difference between reselling and UNEs is the cost. In fact, UNE is nothing more than resale with 2-3x the discount, which comes to a 35%-60% discount. UNE-P has made it possible for AT&T and MCI to compete in the residential arena. Because it is too costly to build out less dense residential networks, UNE-P resale (and cable telephony overbuilding) are being used to penetrate the residential and small business market. According to the FCC, CLECs served 4.6% of those markets at the end of 2000, and 6.6% of such markets by year-end 2001. There were 9.5m UNE loops at year-end 2001, **up from 8m six months earlier**. About 61%, or 5.8m lines, were UNE-P lines that included switching, and the rest (3.7m) were UNE loops, where the CLEC just leases the

copper loop, and provides the other network elements. UNE-Loops cause the largest revenue loss under the local wholesale scheme. However, UNE loop sales should ameliorate, in our view.

ILECs lost 1.5m lines in the last six months of 2001 in the form of UNEs to CLECs, which we estimate comes to $1bn in lost annualized sales, most of which is pure profit. In a six-month span, then, after taxes, ILEC bottom lines lost about $325m in net income, and $4.2bn in market capitalization, assuming a 13x P/E multiple. The Bells control about 94% of the nation's incumbent access lines, so the RBOCs, primarily through UNE, lost $4bn in market capitalization in the last half of 2001. The Bells currently have a $220bn equity market cap, meaning that CLECs conceivably destroyed 2% of Bell equity value in the second half of 2001, assuming our estimates are reasonable and that the market actually "made" this observation and factored it into stock prices. There's no assurance RBOC stocks didn't decline due to other reasons, and that the UNE-P issue has yet to be factored into the stocks.

Case study: AT&T UNEs

The UNE-P platform will be instrumental in enabling AT T to reach its goal of 10bn in annual business local revenues in five years

AT&T's new senior management states that the UNE-P platform is expected to be as successful in penetrating the business market as it has been in the residential market. Today, T has some 3.2m local lines, of which 500,000, or 15%, are UNE-P-based. That percentage will increase. We estimate that the UNE-P platform will be instrumental in enabling AT&T to reach its goal of $10bn in annual business local revenues in five years. Note: it takes T about two years for UNE-P, on its own, to breakeven, excluding the positive impacts of bundling long distance with UNE-P.

From a macroeconomic point of view there are several concerns with the UNE-P system:

- It's a policy-stimulated transfer of wealth (from shareholders and employees to consumers), rather than being left to market forces.
- In the longer-term, it could rob consumers of advanced services that require the RBOCs' plentiful cash flow to fund.
- Asset write-downs will cause 'stock-shock' and a shock to the telecom 'supplier' system.

UNE is a creation of the prior FCC administration. Only network elements such as switching, local loop costs and other various network elements were required under the 1996 Act to be sold at reasonable discounts to the CLEC. The FCC decided that the ILECs were required to "rebundle" these elements and sell them at much steeper discounts than plain resale. Plain resale was required by the Act as well. The price was to be the retail price charged by the Bell less avoidable costs such as selling costs. That was interpreted to mean a 20%-25% discount to retail. However, the CLECs didn't have any margin left over for a profit. We're not sure, however, that profit was required by the Act. At the end of the day, the spirit of the Act was to deliver a mechanism to jumpstart local competition, and we interpret that to mean to develop a

mechanism to allow competitors to build up a large enough base of customers – either through UNE elements or resale to THEN justify building their own network.

Regulators forgot to notice that wireless is local competition, too

In its July 2002 Local Telephone Competition report, the FCC reported that US wireless subscribers increased from 79.7m at year-end 1999 to 122.4m by year-end 2001, or a 23.9% CAGR. With wireless carriers offering big bucket minute plans including features like Caller ID and free roaming, wireless phones are replacing landlines for many consumers. As wireless companies continue to build out their networks and improve service quality, wireless displacement will increasingly displace RBOC landlines.

Wireless displacement is not only affecting primary access lines, but is having a devastating effect on RB C second lines

Wireless displacement is not only affecting primary access lines, but is having a devastating effect on RBOC second lines. Second line growth for the RBOCs is declining rapidly, primarily as a result of wireless displacement of these second lines. For example, BLS reported a Q2 02 second line YoY growth decline of 10.6%, while SBC's second lines declined 8.7% YoY in Q2 02. Historically, second lines have increased as much as 15%-20% YoY, and just two quarters ago we estimate that these second line were declining approximately 5%. If we estimate that the RBOCs combined for 17m second lines at year-end 2001, and each second line generates $5 per month with a 65% EBITDA margin, then $633m of EBITDA was generated from RBOC second lines in 2001. This $633m of EBITDA is in danger of being reduced by 10% per year, primarily due to wireless displacement.

End result

$1.4bn decline over last year

Figure 3: RBOC local wireline

Revenues ($000s)	Q1 01	Q2 01	Q3 01	Q4 01	Q1 02	Q2 02
VZ	10,920	10,953	10,666	10,539	10,474	10,468
YoY growth	2.9%	0.3%	-1.9%	-3.8%	-4.1%	-4.4%
SBC	10,113	10,334	10,201	10,043	9,781	9,737
YoY growth	5.0%	3.6%	1.0%	-1.5%	-3.3%	-5.8%
BLS	4,612	4,722	4,733	4,757	4,614	4,586
YoY growth	3.0%	3.6%	4.6%	4.4%	0.0%	-2.9%
Q	3,577	3,620	3,637	3,706	3,468	3,434
YoY growth	na	na	na	na	-3.0%	-5.1%
Total	29,222	29,629	29,237	29,045	28,337	28,225
YoY growth	3.7%	2.2%	0.4%	-1.3%	-3.0%	-4.7%

Source: Verizon, SBC Communications, Qwest, BellSouth

Regulators hurting consumers in long run

Regulators have moved to an active stance to redesign the industry

The combination of very effective lobbying on the part of small and large (read: AT&T) CLECs, and a democratic FCC (thought to be friendly to long distance and CLECs, not RBOCs) prodded the FCC to create the UNE-Platform, or UNE-P. The FCC decided that UNEs should be priced at a theoretical level, that is, what would it cost for a brand new local network to add an access line. The assumptions include state-of-the-art networks throughout, and perfect capital and man-hour deployments. In other words, we believe these are imaginary, non-historic; therefore, in our opinion, this is an unreasonable way to regulate an industry. Another related issue is that of regulation altogether. In the 10 years of covering this industry, regulators have, in our view, taken an exponentially more involved role in the "day-to-day" decisions about pricing, mergers, service offerings, inter-carrier relationships, etc. than *before* the 1996 Act. It wasn't supposed to turn out that way. Regulators have moved to an active stance to redesign the industry, from a passive stance where carriers knew the rules and operated *freely* within them. They knew what their returns would be, and didn't have to make the very risky types of investments RBOCs have made in the past few years to compensate for the loss of growth in the core business that has destroyed shareholder value. On top of that the regulators have had the nerve to regulate the newer high-risk capital return projects such as DSL. Now every carrier move is scrutinized by a state or FCC hearing, slowing down the communications revolution of the late 1990s. In the short run, the consumer wins with these artificially lowered local rates. In the long term, the consumer will suffer as ILECs cut their capital budgets by 30%, which will produce fewer services, more network outages, and crummier customer service. The regulators don't understand that the local industry, unlike the long distance industry, is the closest thing in telecoms to a "natural" monopoly. Wireless, long distance and undersea networks cost less per DS-0 to build, and are constructed in a matter of months or a year or two, not the many years it takes to build a local landline network.

Figure 4: Dresdner Kleinwort Wasserstein RBOCs earnings universe

Rating	Company	Symbol	Price (US$) 20 Aug.	Target price (US$)	Fiscal year	52-week (US$) High	52-week (US$) Low	Earnings per share (US$) 2001A	Earnings per share (US$) 2002E	Earnings per share (US$) 2003E	Qtrly. EPS (US$) Yr. ago	Qtrly. EPS (US$) Curr. est.	P/E ratio (x) 2001A	P/E ratio (x) 2002E	P/E ratio (x) 2003E	Est. 5-yr gr. rate (%)	Ind div (US$)	Yield (%)	Mkt cap. (US$m)
Hold	BellSouth Corp.	BLS	$25.50	$28.00	Dec	$42.95	$20.10	$2.21	$2.15	$2.23	$0.59	$0.53	11.5x	11.9x	11.4x	NA	$0.80	3.1%	$46,076
Hold	Qwest Communications	Q	$2.95	$2.00	Dec	$24.00	$1.07	$0.05	-$0.52	-$0.40	-$0.08	-$0.15	59.0x	NM	NM	NA	$1.54	52.2%	$4,628
Hold	SBC Communications (1)	SBC	$27.68	$28.00	Dec	$47.50	$22.20	$2.35	$2.31	$2.41	$0.59	$0.55	11.8x	12.0x	11.5x	NA	$1.08	3.9%	$88,949
Hold	Verizon Communications (1)	VZ	$31.80	$38.00	Dec	$55.99	$26.01	$3.00	$3.06	$3.15	$0.75	$0.78	10.6x	10.4x	10.1x	NA	$1.54	4.8%	$80,874

(1) Mr. Roberts has a long position in the common shares of this security.

Source: First Call, Reuters, DrKW estimates

Notes

Mr. Roberts has a long position in the common shares of SBC Communications and Verizon Communications.

DrKW is a full service firm that offers many services and products to a wide variety of clients. The reader should assume that DrKW has received or may receive compensation for those services with respect to any of the companies mentioned herein.

DRESDNER KLEINWORT WASSERSTEIN RESEARCH – RECOMMENDATION DEFINITION

(Except as otherwise noted, expected performance over next 12 months)

Buy	10% or greater increase in share price	Reduce	5-10% decrease in share price
Add	5-10% increase in share price	Sell	10% or more decrease in share price
Hold	+5%/-5% variation in share price		

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Commerce Capital Markets

Telecommunications & Broadband Services

THE STATUS OF 271 AND UNE-PLATFORM IN THE REGIONAL BELLS' TERRITORIES

Regulatory Update

Type of Report
INDUSTRY REPORT

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- Since our May report, the FCC has granted 271s in four states: Georgia and Louisiana for BellSouth and Maine and New Jersey for Verizon. Applications for seventeen states' 271s are before the FCC now. By year-end we expect all of Verizon to be covered by 271s. We expect Qwest to have 271s in all but one or two states (Minnesota and Arizona being the ones we expect to lag). We expect BellSouth to have all its 271s except Florida. Finally, we expect SBC to add California late in 2002, but do not believe the Ameritech states will get their 271s until the first half of 2003.

- As part of the 271 process, UNE rates since May have been reduced in many states, most notably in the Qwest Region, but also in SBC and BellSouth states. We expect some more UNE reductions (Massachusetts, New Jersey and Pennsylvania are pending for Verizon, for example) but expect the pace to slow given how much UNE rates have decreased and given that the 271 process that drives some of the cuts is nearing its end.

- For the CLECs, the lower UNE rates present the opportunity to enter the local market with minimal up-front investment. It is not clear, however, whether some of the more troubled companies, like WorldCom, will be able to take full advantage. We view UNEP as being positive for the IXCs, particularly AT&T, but do not believe that it is enough to stem the declining revenues and profitability of the consumer long-distance market.

- From the RBOC-investor's perspective, UNEP presents several problems. One is the reduction in revenues that comes from converting retail to wholesale revenues. The other is the pricing compression that comes from the RBOCs' own attempts to restructure their prices to compete with the new entrants. Finally, there is the exposure during a period when an RBOC cannot yet enter long-distance, but the IXCs have begun to enter its local market. Among the RBOCs, SBC is by far the most exposed. In California and in the Ameritech states, it has super-low UNEP prices and no ability to counter an IXC's entry with an all-distance plan. It is possible that Verizon will also see some meaningful share loss in the next few months, but we do not see the IXCs being as focused on it as they are on SBC, particularly in California.

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Ratings

Strong Buy Outperform market near-term and long-term by over 10%	***Market Outperform*** Outperform market long-term by over 10%	***Market Perform*** Perform in-line with market (+ or – 5%)	***Market Underperform*** Underperform market by over 10%

THE STATUS OF 271 AND UNE-PLATFORM IN THE REGIONAL BELLS' TERRITORIES

Over three months have passed since we last published our report "The Status of 271 and UNE-Platform in the Regional Bells' Territories". Given the recent flood of 271 filings with the FCC and the concomitant changes to UNE-Platform (UNEP) rates made by individual state commissions, we thought it timely to provide an update.

- The flood of applications for in-Region long distance entry under section 271 of the Telecom Act (271) is reaching its crest. Fourteen 271s have been granted to the Regional Bells (RBOCs) so far, and the FCC has applications for seventeen more before it right now: Alabama, Kentucky, Mississippi, North Carolina and South Carolina for BellSouth; Colorado, Idaho, Iowa, Nebraska, North Dakota, Montana, Utah, Washington, and Wyoming for Qwest; New Hampshire, Delaware, and Virginia for Verizon.

- By year-end 2002, we expect 271s to cover all BellSouth states except Florida, all Qwest states except Minnesota and possibly Arizona, and all Verizon states. SBC has a good chance of having California granted by year-end, and a slight chance of having Michigan granted as well, with the rest of the Ameritech states likely to slip into the first half of 2003.

- As the RBOCs have prepared to submit their 271s, they and their state commissions have made changes to their unbundled network element (UNE) prices. While commissions do occasionally change UNE prices independently of the 271 process—as New York did earlier this year and as Massachusetts, New Jersey, Texas and Pennsylvania are doing now—most changes have been made as part of the 271 process. Thus, both because UNE rates have been lowered sharply in most states over the last year and because the 271 process is ending, we expect a slower rate of change to UNE prices over the next year or two than we have seen in the last few months.

- The actual implementation of UNEP accelerated in the last few months, as competitive carriers (CLECs) have focused more on this market. WorldCom's MCI division, in partnership with Z-Tel launched its Neighborhood Plan in April. AT&T has added local UNEP-based service in six states to its original two since March of 2002 and will probably add another two states this year. In early 2002, AT&T was offering UNEP-based local service only in New York and Texas. Since March, it has added Michigan, Georgia, Illinois, Ohio, California, and New Jersey. It has indicated that it will also enter Pennsylvania and Massachusetts this year. We expect it to push hard in California, where it will fight hardest to protect its long-distance market. WorldCom's MCI division introduced its Neighborhood plan in April and appeared ready to pursue entry in at least the urban zones throughout most of the country. Entry by these long-distance carriers (IXCs) has been partly in response to potential entry by the RBOCs into the long distance market in a given state and partly in response to lower UNE prices. Given the financial problems at WorldCom and the changes in AT&T's structure and management as it merges its Broadband

unit with Comcast it is somewhat difficult to predict how hard they will push UNEP. We expect some backing off on WorldCom's part, and a harder push in a small number of states on AT&T's.

- At least in theory, the greatest exposure to changes in UNE prices is to SBC. AT&T just began deploying UNEP in California, where SBC will not be able to respond on the long-distance side till around year-end 2002, at best. AT&T is also in Michigan, Illinois, and Ohio, where it is unlikely that SBC will be able to respond on the long-distance side till sometime in the first half of 2003. As we indicate below, UNEP discounts are greatest overall in the SBC Region. BellSouth is seeing UNEP-based entry primarily in Georgia and Florida, but AT&T has not yet entered Florida. Florida is the only state in which we do not expect BellSouth to have a 271 till late first quarter 2003. Qwest's rates have recently dropped in a number of states, so that the Regional average UNEP rate has dropped from $28.21 to $23.97. However, we do not believe that entry into Qwest's territory is a high priority for the IXCs at any price. Verizon's rate at $20.23 is the second lowest on a Regional basis, but that rate is relatively stable vs. May of 2002. It is also worth noting that Verizon has not lost much market share since rates in New York were lowered in January. AT&T has indicated that it will enter Pennsylvania and Massachusetts this year, but neither the timing nor the level of effort in those states is clear to us.

- The Supreme Court has affirmed the FCC's right to designate TELRIC (Total Element Long Run Incremental Cost) as the methodology by which UNE prices are set. More broadly, in its May 2002 Verizon Communications v. FCC decision, the Supreme Court appeared to affirm the FCC's right to designate any method other than rate-of-return, which is specifically precluded by the Telecom Act, for the purpose of setting UNE prices.

- The long-term survival of UNEP is, nevertheless, in question. In its May 2002 Verizon decision, the Supreme Court reaffirmed the "necessary and impair" standard, which it had already highlighted in its January 1999 Iowa Utilities Board v. FCC decision. On May 24th, in its USTA v. FCC decision, the D.C. Circuit of Appeals remanded to the FCC the 1999 UNE order in which the FCC attempted to refine the list of required UNEs in accordance with the Supreme Court's "necessary and impair" standard. The D.C. Circuit also vacated the FCC's line-sharing order. The FCC has appealed back to the full D.C. Circuit some aspects of the court's decision.

- All of these judicial decisions will have an impact on the triennial review which was initiated by the FCC in December of 2001 to decide which UNEs still meet the "necessary and impair" test. The triennial review was expected to conclude this year. If the D.C. Circuit does accept the FCC's appeal, we believe it is unlikely that the FCC will issue an order in the triennial review till after the court rules, most likely some time next spring. Aside from delaying the conclusion, the various court decisions are likely to drive the FCC toward a more granular analysis than it had done in the past. That was the bent of the current FCC anyway, but the D.C. decision reinforces it. For example, we would not be surprised to see switching removed as an element in some

markets fairly quickly and in others over some longer transition period. Other elements also might be removed over time in some geographic and customer markets. If the FCC decides to take granularity down to the wire-center level, it may leave actual implementation in the hands of the states, but with fairly tight rules to guide that implementation. In the context of UNEP, what is significant about the removal of an individual element is that it makes it necessary for the CLEC to do some work to reassemble the line when it inserts its own equipment. That will make it more difficult to move large numbers of customers rapidly. Thus, the timing and outcome of the triennial review is very important both to the CLECs/IXCs who use UNEP and to the RBOCs who are wholesaling lines to those CLECs/IXCs at deep discounts.

- The actual financial impact of UNEP on either the RBOCs or their competitors is, of course, what investors care about. Unfortunately, it is difficult to quantify because it depends so much on the companies' strategies. The more CLECs are able to cream-skim in a given market, the better their own margins and the greater the damage to the RBOC. The CLECs' ability to cream-skim, in turn, depends not only on the CLECs' own strategies, but on the RBOCs' win-back efforts, which often include the introduction of new pricing plans and the RBOCs' ability to offer all-distance plans. Thus, damage to the RBOCs' financials comes not only from the conversion of retail revenues to wholesale revenues, but from a broader repricing in response to competition. The offset from long distance appears to be fairly minor, at this point. Although ultimately all-distance customers may be "stickier" than those who use only one service, initially both sides are likely to spend more on marketing to fight churn than they did before.

- Our May 1, 2002 report included one effort at such an analysis. It found that UNEP creates a discount of about 19% to 42% below retail residential revenue. Using the same retail rates, those discounts would now range from 24% to 50%. Another way to look at the issue is to use the FCC's rate reference book, which relies, in turn, on TNS bill-harvesting data. According to this data, average residential spending per household on local service is $426 per year and on long-distance $176 per year. Assuming 1.2 lines per household, that would equate to about $30 per line in local revenue plus about $4 per line in access charges for a total revenue per line of about $33-$34. That figure falls within the range of $30-$34 for retail consumer revenue that we had estimated in May, although both calculations present potential problems. For the TNS data, specifically, it is not clear whether taxes and Universal Service Fund contributions which an RBOC would simply pass through to the government are included in the revenue. With that caveat, we are using $33.50 as a national average residential rate. That leads to UNEP discounts on a Region-wide basis of 27% in BellSouth, 28% in Qwest, 48% in SBC, and 40% in Verizon. The TNS numbers also indicate that the RBOC would need to gain more than three long-distance customers to make up for the revenues from any local customer it loses ($474 of local plus access revenue vs. $128 of long-distance revenue net of access). And—given the different margin structures of the industries—it needs more than that to make up for the lost cash flow. Of course, to the extent that an IXC can capture small business customers whose

retail spending is higher than that of consumers, the damage to the RBOC is greater. For some time, at least, while the industry restructures itself into an "all distance" market, the UNEP vs. 271 game is likely to be "negative-sum," with both the RBOCs' and IXCs' profits hurt by lower revenue and higher marketing costs.

APPENDIX

SUMMARY OF CHANGES TO UNEP REPORT, MAY TO AUGUST, 2002

Changes in methodology and corrections of errors:

- We changed our MOU (minutes of use) assumption from 1200 to 1411, to account for toll minutes, based on footnote 252 of the FCC's Pennsylvania order.
- For the columns that calculate full UNEP based on DEM (dial-equipment minutes), there is no change. Thus, for comparison, we are showing full UNEP based on DEM for both May and August in our tables.
- We corrected an error in the formula that calculated amortized non-recurring charges for Verizon's MA, NH, NY, DE, PA. For NV, KS, MO, OK and TX, we now have some non-recurring charges that we did not have in our last iteration. For Maryland, we are no longer using the compliance rates that we used in May. Statewide loop rate averages changed in several BellSouth, Qwest and Verizon states, though the actual rates did not, based on new estimates of the distributions of lines per zone: KY, LA, MS, SC, NM, ME, RI, PA.
- Once we assemble our data, we ask all the relevant state commissions, RBOCs and the two major IXCs to comment on its accuracy. We received specific feedback on the accuracy of our tables from all the RBOCs and many states.

SUMMARY OF RBOC CHANGES

- UNE prices continue to trend down.
- For all RBOCs the full UNEP average (assuming DEM) dropped by 10% from that which we reported in May.
- On a national basis, full UNEP average (assuming DEM) now stands at $20.28 vs. the $22.58 average we reported in May.
- The range is a high of $24.38 for BellSouth and a low of $17.50 for SBC, within the range we predicted in our May report.
- SBC experienced a roughly 20% decline (with an even sharper decline in California) and Qwest experienced a roughly 15% decline in full UNEP (DEM) average since our May report.
- The RBOC-wide total switching and transport average dropped 21%, from the $8.34 we reported in May to $6.59 in August.
- Several states' full UNEP (DEM) price appear to increase or actually increased from that which we reported in May. In some cases, as noted above, we changed the non-recurring formula. In some cases we changed the distribution

of loops among zones, thus changing the average. In a few cases, rates actually rose. In AL, FL, LA, MS and SC, there is now a cross-connect charge that is part of the non-recurring charges that we amortize. In Oregon, the port rate increased slightly.

— Anna Maria Kovacs, Ph.D., CFA
— Kristin L. Burns, Ph.D.
— Gregory S. Vitale

COMPANIES MENTIONED IN THIS REPORT

Company Name	Symbol	Price
BellSouth	BLS	$25.44
SBC	SBC	$27.89
Qwest	Q	$2.82
Verizon	VZ	$31.18
AT&T	T	$11.79
WorldCom's MCI	WCOEQ	$0.12
Z-Tel	ZTEL	$1.44
Comcast	CMCSK	$22.99
Dow Jones Industrial	DJIA	8,887.87
S&P 500 Stock Index	SPX	941.06

EXHIBIT 1: UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - ALL RBOCS

RBOC Regionwide Averages	ACCESS LINES (000s)	% OF TOTAL ACCESS LINES	LOOP RATE (per month)	TOTAL SWITCHING AND TRANSPORT (per month) Assumes 1411 originating minutes	TOTAL SWITCHING AND TRANSPORT (per month) Assumes DEM minutes	ALL OTHER (per month) Assumes 1411 originating minutes	ALL OTHER (per month) Assumes DEM minutes	FULL UNEP ORIGINATING AND TERMINATING Assumes 1411 originating minutes	FULL UNEP ORIGINATING AND TERMINATING Assumes DEM minutes	MAY 2002 FULL UNEP ORIGINATING AND TERMINATING Assumes DEM minutes
			KEY INPUTS	SUBTOTALS				TOTALS		
Average, All RBOCS	145,078	100%	$13.04	$7.28	$6.59	$0.62	$0.66	$20.94	$20.28	$22.58
High			$16.60	$8.42	$6.97	$1.61	$2.01	$24.58	$24.38	$28.21
RBOC			Q	VZ	Q	BLS	BLS	Q	BLS	Q
Low			$11.03	$5.92	$5.91	$0.19	$0.18	$18.30	$17.50	$19.81
RBOC			SBC	BLS	SBC	VZ	VZ	SBC	SBC	VZ
BellSouth Regionwide Avg.	24,052	17%	$15.42	$5.92	$6.95	$1.61	$2.01	$23.94	$24.38	$26.06
High			$22.37	$6.78	$8.77	$2.63	$3.11	$29.34	$29.82	$36.09
State			MS	NC	GA	FL	FL	MS	MS	AL
Low			$12.55	$4.30	$5.31	$0.99	$1.18	$19.48	$20.88	$20.90
State			GA	TN	TN	KY	MS	TN	TN	TN
Qwest Regionwide Avg.	17,961	12%	$16.60	$7.58	$6.97	$0.43	$0.40	$24.58	$23.97	$28.21
High			$23.98	$12.22	$10.25	$0.75	$0.70	$34.95	$34.64	$39.98
State			MT	SD	SD	OR	OR	MT	MT	MT
Low			$13.43	$5.13	$4.44	$0.18	$0.18	$20.65	$20.54	$22.17
State			UT	NM	NM	IA	IA	UT	UT	OR
SBC Regionwide Avg.	58,138	40%	$11.03	$6.67	$5.91	$0.60	$0.55	$18.30	$17.50	$21.54
High			$20.52	$13.24	$10.13	$2.90	$2.82	$33.84	$30.63	$30.54
State			NV	NV	WI	WI	WI	NV	NV	NV
Low			$7.91	$3.85	$3.71	$0.03	$0.02	$12.20	$12.05	$14.50
State			OH	IN	IN	IN	IN	IN	IN	MI
AMERITECH Region Avg.	21,841	38%	$9.21	$6.42	$5.94	$0.65	$0.58	$16.28	$15.73	$16.32
High			$10.90	$11.27	$10.13	$2.90	$2.82	$25.07	$23.85	$23.85
State			WI	WI	WI	WI	WI	WI	WI	WI
Low			$7.91	$3.85	$3.71	$0.03	$0.02	$12.20	$12.05	$14.50
State			OH	IN	IN	IN	IN	IN	IN	MI
PACIFIC BELL Region Avg.	19,001	33%	$10.15	$6.90	$5.54	$0.08	$0.08	$17.13	$15.77	$17.54
High			$20.52	$13.24	$10.02	$0.08	$0.08	$33.84	$30.63	$30.54
State			NV	NV	NV	CA, NV	CA, NV	NV	NV	NV
Low			$9.93	$6.77	$5.44	$0.08	$0.08	$16.78	$15.46	$17.47
State			CA	CA	CA	CA, NV	CA, NV	CA	CA	CA
SWBT Region Avg.	17,296	30%	$14.31	$6.73	$6.29	$1.10	$1.02	$22.14	$21.63	$21.54
High			$15.71	$8.45	$8.03	$1.37	$1.30	$25.53	$25.03	$24.88
State			OK	OK	OK	OK	OK	OK	OK	OK
Low			$13.09	$5.75	$5.16	$0.27	$0.27	$20.13	$19.60	$19.49
State			AR	AR,KS	KS	MO	MO	AR	KS	KS
Verizon Regionwide Avg.	44,927	31%	$12.93	$8.69	$7.12	$0.19	$0.18	$21.82	$20.33	$19.81
High			$24.58	$20.82	$19.32	$0.69	$0.66	$45.52	$44.02	$44.02
State			WV	WV	WV	DE	DE	WV	WV	WV
Low			$9.52	$6.41	$5.25	$0.00	$0.00	$17.15	$15.14	$15.14
State			NJ	NY	PA	DC	DC	NJ	NJ	NJ
NYNEX Region Avg.	19,487	43%	$12.92	$8.13	$6.82	$0.13	$0.12	$21.18	$19.85	$20.36
High			$18.10	$12.91	$10.54	$0.46	$0.38	$28.08	$25.42	$29.77
State			NH	MA	VT	NH	NH	MA	MA	NH
Low			$11.49	$6.41	$5.59	$0.04	$0.03	$17.98	$17.17	$17.35
State			NY	NY	NY	RI,VT	RI,VT	NY	NY	NY
BELL ATLANTIC Region Avg.	25,439	57%	$12.95	$9.11	$7.35	$0.24	$0.22	$22.31	$20.52	$19.39
High			$24.58	$20.82	$19.32	$0.69	$0.66	$45.52	$44.02	$44.02
State			WV	WV	WV	DE	DE	WV	WV	WV
Low			$9.52	$6.49	$5.25	$0.00	$0.00	$17.15	$15.14	$15.14
State			NJ	PA	PA	DC	DC	NJ	NJ	NJ

Source: Company Financial reports and regulatory filings including tariffs, interconnection agreements and ARMIS reports; CCMI estimates.

EXHIBIT 1A: UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - ALL RBOCS

RBOC Regionwide Averages		LOOP RATE (per month)	PORT RATE (per month)	Local originating SWITCHING (per MOU)	Local terminating SWITCHING (per MOU)	OTHER SWITCHING AND TRANSPORT (per MOU)	DUF (per month) Assumes 1411 originating minutes	DUF (per month) Assumes DEM minutes	Other Switching and Transport (per month) Assumes 1411 originating minutes	Other Switching and Transport (per month) Assumes DEM minutes	FEATURE COST (per month)	AMORTIZED NRC (per month)	TOTAL DEM (per line, per month)
		KEY INPUTS					SUBTOTALS						
Average, All RBOCS		$13.04	$2.02	$0.001643	$0.001547	$0.000675	$0.45	$0.48	$0.95	$0.82	$0.33	$0.17	2,171
	High	$16.60	$2.49	$0.002888	$0.002199	$0.001036	$1.46	$1.86	$1.46	$1.32	$0.61	$0.23	3,168
	RBOC	Q	SBC	VZ	VZ	Q	BLS	BLS	Q	Q	BLS	SBC	BLS
	Low	$11.03	$1.41	$0.001150	$0.001150	$0.000517	$0.06	$0.05	$0.73	$0.56	$0.20	$0.13	1,871
	RBOC	SBC	Q	SBC	SBC	BLS	VZ	VZ	BLS	VZ	VZ	Q, VZ	VZ
BellSouth Regionwide Avg.		$15.41	$1.73	$0.001151	$0.001151	$0.000517	$1.46	$1.86	$0.73	$0.93	$0.61	$0.14	3,168
	High	$22.37	$2.80	$0.001868	$0.001868	$0.000782	$2.45	$2.94	$1.10	$1.46	$1.26	$0.22	3,574
	State	MS	SC	LA	LA	KY	FL	FL	KY	KY	FL	NC	GA
	Low	$12.55	$1.15	$0.000703	$0.000703	$0.000408	$0.88	$1.03	$0.58	$0.80	$0.00	$0.06	2,754
	State	GA	KY	AL	AL	AL	NC	MS	AL	AL	AL GA, KY,LA,	KY	MS
Qwest Regionwide Avg.		$16.60	$1.41	$0.001731	$0.001731	$0.001036	$0.30	$0.28	$1.46	$1.32	$0.40	$0.13	2,229
	High	$23.98	$2.64	$0.003469	$0.003469	$0.001301	$0.39	$0.46	$1.84	$1.66	$4.76	$0.36	2,947
	State	MT	WY	SD	SD	MN	MN,ND,OR,	ND	MN	MN	UT	OR	ND
	Low	$13.43	$0.93	$0.000000	$0.000000	$0.000721	$0.00	$0.00	$1.02	$0.83	$0.00	$0.00	2,001
	State	UT	UT	UT	UT	NM	IA	IA	NM	NM	:,CO,IA,ID,MN,):	MN	SD
SBC Regionwide Avg.		$11.03	$2.49	$0.001150	$0.001150	$0.000746	$0.36	$0.33	$1.05	$0.81	$0.29	$0.25	1,974
	High	$20.52	$6.25	$0.002259	$0.002259	$0.005408	$1.06	$1.02	$7.63	$5.52	$0.90	$2.57	2,386
	State	NV	WI	OK	OK	NV	AK, KS,OK,TX	AK	NV	NV	CA	WI	AR
	Low	$7.01	$0.88	$0.000000	$0.000000	$0.000299	$0.00	$0.00	$0.42	$0.38	$0.00	$0.01	1,764
	State	OH	CA	IL,IN	IL, IN	TX	CA,NV,MO	CA,NV,MO	TX	TX	IL,IN,OH,MI,WI	IN	IL
AMERITECH Region Avg.		$9.21	$4.20	$0.000436	$0.000436	$0.000810	$0.27	$0.30	$1.14	$0.88	$0.00	$0.35	1,906
	High	$10.90	$6.25	$0.001319	$0.001319	$0.001247	$0.33	$0.37	$1.76	$1.36	n/a	$2.57	2,097
	State	WI	WI	WI	WI	WI	WI	OH	WI	WI	n/a	WI	OH
	Low	$7.01	$2.53	$0.000000	$0.000000	$0.000548	$0.02	$0.01	$0.77	$0.58	n/a	$0.01	1,764
	State	OH	MI	IL, IN	IL, IN	MI	IN	IN	MI	MI	n/a	IN	IL
PACIFIC BELL Region Avg.		$10.15	$0.90	$0.001482	$0.001482	$0.001036	$0.00	$0.00	$1.46	$1.07	$0.88	$0.08	1,813
	High	$20.52	$1.63	$0.001610	$0.001610	$0.005408	n/a	n/a	$7.63	$5.52	$0.90	$0.08	1,814
	State	NV	NV	NV	NV	NV	n/a	n/a	NV	NV	CA	CA, NV	CA
	Low	$9.93	$0.88	$0.001480	$0.001480	$0.000944	n/a	n/a	$1.33	$0.98	$0.00	$0.08	1,786
	State	CA	CA	CA	CA	CA	n/a	n/a	CA	CA	NV	CA, NV	NV
SWBT Region Avg.		$14.31	$2.08	$0.001688	$0.001688	$0.000345	$0.89	$0.81	$0.49	$0.44	$0.00	$0.21	2,237
	High	$15.71	$2.22	$0.002259	$0.002259	$0.000489	$1.06	$1.02	$0.69	$0.64	$0.00	$0.31	3,386
	State	OK	TX	OK	OK	OK	AR,KS,OK,TX	AR	OK	OK	n/a	OK	AR
	Low	$13.09	$1.61	$0.001490	$0.001490	$0.000299	$0.00	$0.00	$0.42	$0.38	$0.00	$0.18	2,115
	State	AR	AR, KS	AR, KS	AR, KS	TX	MO	MO	TX	TX	n/a	TX	KS
Verizon Regionwide Avg.		$12.93	$1.79	$0.002575	$0.002199	$0.000523	$0.06	$0.05	$0.74	$0.56	$0.20	$0.13	1,871
	High	$24.58	$2.57	$0.008868	$0.005622	$0.001540	$0.43	$0.35	$2.17	$1.65	$1.36	$0.56	2,277
	State	WV	NY	WV	WV	MA	NH	NH	MA	MA	MD	DE	WV
	Low	$9.52	$0.71	$0.001147	$0.001111	$0.000162	$0.00	$0.00	$0.23	$0.16	$0.00	$0.00	1,317
	State	NJ	NH	NY	NY	VA	NY,DC	NY,DC	VA	NJ	ME,MA,DC,DE,	RI,VT,DC	DC
NYNEX Region Avg.		$13.85	$2.24	$0.001832	$0.001804	$0.000875	$0.03	$0.03	$1.24	$0.95	$0.17	$0.09	1,908
	High	$20.96	$2.57	$0.004003	$0.004003	$0.001540	$0.43	$0.35	$2.17	$1.65	$0.32	$0.15	3,009
	State	NH	NY	VT	VT	MA	NH	NH	MA	MA	RI	MA	VT
	Low	$11.49	$0.71	$0.001147	$0.001111	$0.000378	$0.00	$0.00	$0.82	$0.63	$0.00	$0.00	1,870
	State	NY	NH	NY	NY	NY	NY	NY	NY	NY	ME,MA	RI,VT	MA
BELL ATLANTIC Region Avg.		$13.95	$1.45	$0.003144	$0.001501	$0.000253	$0.09	$0.06	$0.36	$0.27	$0.22	$0.16	1,842
	High	$24.58	$2.23	$0.008868	$0.005622	$0.000696	$0.13	$0.12	$0.98	$0.70	$1.36	$0.56	2,277
	State	WV	DE	WV	WV	DC	DE, WV	WV	DC	WV	MD	DE	WV
	Low	$9.52	$0.73	$0.001802	$0.001615	$0.000162	$0.00	$0.00	$0.23	$0.16	$0.00	$0.00	1,317
	State	NJ	NJ	PA	PA	VA	DC	DC	VA	NJ	DC,DE,NJ	DC,NJ,WV	DC

Source: Company Financial reports and regulatory filings including tariffs, interconnection agreements and ARMIS reports; CCMI estimates.

EXHIBIT 2: UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - BELLSOUTH

STATE	DENSITY ZONES	ACCESS LINES (000)	% of TOTAL ACCESS LINES	LOOP RATE (per month)	TOTAL SWITCHING AND TRANSPORT (per month) Assumes 1411 originating minutes	TOTAL SWITCHING AND TRANSPORT (per month) Assumes DEM minutes	ALL OTHER (per month) Assumes 1411 originating minutes	ALL OTHER (per month) Assumes DEM minutes	FULL UNEP ORIGINATING AND TERMINATING Assumes 1411 originating minutes	FULL UNEP ORIGINATING AND TERMINATING Assumes DEM minutes	MAY 2002 FULL UNEP ORIGINATING AND TERMINATING Assumes DEM minutes
				KEY INPUT	SUBTOTALS				TOTALS		
Alabama	Avg.	1,942	8%	$16.66	$4.55	$5.46	$1.07	$1.49	$22.28	$23.55	$36.09
	1			$11.50							
	2			$20.04							
	3			$33.65							
Florida	Avg.	6,514	27%	$15.55	$6.03	$6.55	$2.63	$3.11	$24.21	$25.21	$26.18
	1			$11.77							
	2			$15.89							
	3			$30.70							
Georgia	Avg.	4,115	17%	$12.55	$6.61	$8.77	$1.77	$2.51	$20.93	$23.83	$23.83
	1			$10.80							
	2			$12.47							
	3			$19.83							
Kentucky	Avg.	1,232	5%	$17.26	$5.21	$6.53	$0.99	$1.29	$23.46	$25.08	$23.36
	1			$9.64							
	2			$14.37							
	3			$30.59							
Louisiana	Avg.	2,351	10%	$16.24	$6.63	$7.87	$1.05	$1.26	$23.91	$25.37	$25.37
	1			$11.77							
	2			$22.39							
	3			$48.26							
Mississippi	Avg.	1,326	6%	$22.37	$5.90	$6.28	$1.07	$1.18	$29.34	$29.82	$29.81
	1			$10.98							
	2			$15.91							
	3			$25.04							
	4			$43.68							
North Carolina	Avg.	2,473	10%	$14.18	$6.78	$7.64	$1.10	$1.27	$22.06	$23.09	$27.09
	1			$10.75							
	2			$19.05							
	3			$30.33							
South Carolina	Avg.	1,475	6%	$16.51	$6.15	$6.81	$1.08	$1.26	$23.74	$24.58	$26.93
	1			$13.76							
	2			$20.38							
	3			$26.04							
Tennessee	Avg.	2,624	11%	$14.12	$4.30	$5.31	$1.07	$1.45	$19.48	$20.88	$20.90
	1			$12.48							
	2			$16.31							
	3			$21.32							

Source: Company Financial reports and regulatory filings including tariffs, interconnection agreements and ARMIS reports; CCMI estimates.

EXHIBIT 2A: UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - BELLSOUTH

STATE	LOOP RATE (per month)	PORT RATE (per month)	LOCAL ORIGINATING SWITCHING (per MOU)	LOCAL TERMINATING SWITCHING (per MOU)	OTHER SWITCHING AND TRANSPORT (per MOU)	DUF (per month) Assumes 1411 originating minutes	DUF (per month) Assumes DEM minutes	Other Switching and Transport (per month) Assumes 1411 originating minutes	Other Switching and Transport (per month) Assumes DEM minutes	FEATURE COST (per month)	AMORTIZED NRC (per month)	TOTAL DEM (per line, per month)
	KEY INPUTS					SUBTOTALS						
Alabama	$16.66 $11.55 $20.04 $33.65	$2.24	$0.000703	$0.000703	$0.000408	$0.92	$1.28	$0.58	$0.80		$0.15	3,444
Florida	$15.55 $11.77 $15.89 $30.70	$1.17	$0.000766	$0.000766	$0.000505	$2.45	$2.94	$0.71	$0.85	$2.26	$0.17	2,960
Georgia	$12.55 $10.80 $12.47 $19.83	$1.79	$0.001633	$0.001633	$0.000559	$1.66	$2.40	$0.79	$1.14	$0.00	$0.11	3,574
Kentucky	$17.26 $9.64 $14.37 $30.59	$1.15	$0.001197	$0.001197	$0.000782	$0.93	$1.23	$1.10	$1.46	$0.00	$0.06	3,272
Louisiana	$16.24 $11.77 $22.39 $48.26	$1.36	$0.001868	$0.001868	$0.000465	$0.90	$1.12	$0.66	$0.83	$0.00	$0.14	3,052
Mississippi	$22.37 $10.98 $15.91 $25.04 $43.68	$2.64	$0.001027	$0.001027	$0.000513	$0.92	$1.03	$0.72	$0.83		$0.15	2,754
North Carolina	$18.18 $10.75 $19.05 $30.35	$2.28	$0.001500	$0.001500	$0.000561	$0.88	$1.05	$0.79	$0.94	$0.00	$0.22	2,944
South Carolina	$16.51 $13.76 $20.38 $26.04	$2.80	$0.001052	$0.001052	$0.000554	$0.93	$1.11	$0.75	$0.90		$0.15	2,954
Tennessee	$14.12 $12.48 $16.31 $21.32	$1.70	$0.000804	$0.000804	$0.000432	$0.98	$1.36	$0.61	$0.85	$0.00	$0.09	3,438

Source: Company Financial reports and regulatory filings including tariffs, interconnection agreements and ARMIS reports; CCMI estimates.

EXHIBIT 3: UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - QWEST

STATE	DENSITY ZONES	ACCESS LINES (000s)	% of TOTAL ACCESS LINES	LOOP RATE (per month)	TOTAL SWITCHING AND TRANSPORT (per month) Assumes 1411 originating minutes	TOTAL SWITCHING AND TRANSPORT (per month) Assumes DEM minutes	ALL OTHER (per month) Assumes 1411 originating minutes	ALL OTHER (per month) Assumes DEM minutes	FULL UNEP ORIGINATING AND TERMINATING Assumes 1411 originating minutes	FULL UNEP ORIGINATING AND TERMINATING Assumes DEM minutes	MAY 2002 FULL UNEP ORIGINATING AND TERMINATING Assumes DEM minutes
				KEY INPUT	SUBTOTALS				TOTALS		
Arizona	Avg.	3,001	17%	$15.85	$10.05	$8.80	$0.36	$0.33	$26.26	$24.98	$36.62
	1			$5.91							
	2			$12.31							
	3			$32.24							
Colorado	Avg.	2,950	16%	$15.86	$6.82	$6.12	$0.45	$0.40	$23.12	$22.38	$23.95
	1			$5.91							
	2			$12.31							
	3			$32.24							
Idaho	Avg.	585	3%	$20.42	$6.93	$5.96	$0.50	$0.44	$27.85	$26.82	$35.14
	1			$15.81							
	2			$24.01							
	3			$40.92							
Iowa	Avg.	1,165	6%	$16.47	$7.22	$6.81	$0.18	$0.18	$23.87	$23.45	$28.80
	1			$13.11							
	2			$15.64							
	3			$27.27							
Minnesota	Avg.	2,383	13% -	$17.47	$7.38	$6.80	$0.59	$0.35	$25.64	$25.02	$25.02
	1			$8.81							
	2			$12.33							
	3			$14.48							
	4			$21.91							
Montana	Avg.	394	2%	$23.98	$10.45	$10.15	$0.52	$0.51	$34.95	$34.64	$39.98
	BRA			$23.10							
	1			$23.90							
	2			$27.13							
	3			$29.29							
Nebraska	Avg.	508	3%	$17.51	$8.69	$8.80	$0.31	$0.31	$26.51	$26.62	$36.80
	1			$12.14							
	2			$28.11							
	3			$62.50							
New Mexico	Avg.	894	5%	$21.43	$5.13	$4.44	$0.48	$0.42	$27.04	$26.29	$25.91
	1			$17.73							
	2			$20.36							
	3			$26.23							
North Dakota	Avg.	226	1%	$17.79	$8.59	$10.01	$0.67	$0.64	$26.95	$28.44	$33.26
	1			$14.78							
	2			$24.92							
	3			$56.44							
Oregon	Avg.	1,552	8%	$15.06	$7.27	$6.59	$0.75	$0.70	$23.02	$22.29	$22.17
	1			$13.95							
	2			$25.20							
	3			$56.21							
South Dakota	Avg.	275	1%	$21.09	$12.22	$10.25	$0.41	$0.37	$33.72	$31.71	$32.58
	1			$17.01							
	2			$18.54							
	3			$24.37							
Utah	Avg.	1,140	6%	$13.41	$6.95	$6.85	$0.27	$0.25	$20.65	$20.54	$29.69
	urban			$11.41							
	suburban			$13.83							
	rural			$19.11							
Washington	Avg.	2,647	15%	$14.41	$5.87	$5.86	$0.50	$0.50	$20.78	$20.77	$24.06
	1			$6.41							
	2			$11.35							
	3			$12.76							
	4			$14.31							
	5			$19.06							
Wyoming	Avg.	278	2%	$23.38	$8.53	$7.92	$0.50	$0.51	$32.67	$32.02	$37.45
	BRA			$19.91							
	1			$26.94							
	2			$30.13							
	3			$40.98							

Source: Company Financial reports and regulatory filings including tariffs, interconnection agreements and ARMIS reports; CCMI estimates.

EXHIBIT 3A: UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - QWEST

STATE	KEY INPUTS					SUBTOTALS						
	LOOP RATE (per month)	PORT RATE (per month)	Local originating SWITCHING (per MOU)	Local terminating SWITCHING (per MOU)	OTHER SWITCHING AND TRANSPORT (per MOU)	DUF (per month) Assumes 1411 originating minutes	DUF (per month) Assumes DEM minutes	Other Switching and Transport (per month) Assumes 1411 originating minutes	Other Switching and Transport (per month) Assumes DEM minutes	FEATURE COST (per month)	AMORTIZED NRC (per month)	TOTAL DEM (per month, per line)
Arizona	$15.85 $5.91 $12.31 $32.74	$1.68	$0.002800	$0.002800	$0.001029	$0.26	$0.22	$1.45	$1.24	$0.00	$0.10	2,183
Colorado	$15.86 $5.91 $12.31 $32.74	$1.53	$0.001610	$0.001610	$0.000929	$0.91	$0.27	$1.31	$1.14	$0.00	$0.13	2,144
Idaho	$20.42 $15.81 $24.01 $40.92	$1.36	$0.001735	$0.001735	$0.000929	$0.92	$0.26	$1.31	$1.08	$0.00	$0.18	2042
Iowa	$16.47 $13.11 $15.64 $27.27	$1.15	$0.001929	$0.001929	$0.000929	$0.00	$0.00	$1.31	$1.22	$0.00	$0.18	2,300
Minnesota	$17.87 $8.81 $12.33 $14.48 $21.91	$1.08	$0.001810	$0.001810	$0.001301	$0.39	$0.35	$1.84	$1.66	$0.00	$0.00	2,240
Montana	$23.98 $23.10 $23.90 $27.13 $29.29	$1.58	$0.002923	$0.003923	$0.000929	$0.35	$0.14	$1.31	$1.27	$0.34	$0.17	2,383
Nebraska	$17.51 $12.14 $28.11 $62.50	$2.47	$0.001989	$0.001989	$0.000929	$0.39	$0.16	$1.31	$1.35	$0.00	$0.05	2,511
New Mexico	$21.45 $17.75 $26.30 $26.23	$1.38	$0.001108	$0.001108	$0.000721	$0.31	$0.25	$1.02	$0.85	$0.00	$0.17	2,014
North Dakota	$17.79 $14.78 $24.92 $56.44	$1.27	$0.002435	$0.002435	$0.000929	$0.39	$0.46	$1.31	$1.56	$0.00	$0.18	2,947
Oregon	$15.00 $13.95 $25.20 $56.21	$1.26	$0.001330	$0.001330	$0.001178	$0.39	$0.14	$1.66	$1.44	$1.06	$0.36	2,134
South Dakota	$21.09 $17.01 $18.54 $24.37	$1.84	$0.003469	$0.003469	$0.001286	$0.25	$0.20	$1.81	$1.47	$0.00	$0.17	2,001
Utah	$11.43 $11.41 $13.83 $19.11	$0.91 $0.92 $0.90 $1.02	$0.000800	$0.000000	$0.000890	$0.18	$0.16	$1.26	$1.16	$1.76	$0.09	2,272
Washington	$18.41 $6.41 $11.35 $12.76 $14.31 $19.06	$1.34	$0.001200	$0.001200	$0.001112	$0.39	$0.39	$1.57	$1.56	$0.00	$0.11	2,463
Wyoming	$23.58 $19.91 $26.94 $30.13 $40.98	$2.64	$0.001854	$0.001854	$0.000929	$0.39	$0.35	$1.31	$1.17	$0.00	$0.18	2,212

Source: Company Financial reports and regulatory filings including tariffs, interconnection agreements and ARMIS reports, CCMI estimates.

EXHIBIT 4: UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - SBC

STATE	DENSITY ZONES	ACCESS LINES (000s)	% of TOTAL ACCESS LINES	LOOP RATE (per month)	TOTAL SWITCHING AND TRANSPORT (per month) Assumes 1411 originating minutes	TOTAL SWITCHING AND TRANSPORT (per month) Assumes DEM minutes	ALL OTHER (per month) Assumes 1411 originating minutes	ALL OTHER (per month) Assumes DEM minutes	FULL UNEP ORIGINATING AND TERMINATING Assumes 1411 originating minutes	FULL UNEP ORIGINATING AND TERMINATING Assumes DEM minutes	May 2002 FULL UNEP ORIGINATING AND TERMINATING Assumes DEM minutes
				KEY INPUT	SUBTOTALS				TOTALS		
LEC - Ameritech											
Illinois	wtd. avg.	7,216	12%	$9.53	$6.35	$5.90	$0.41	$0.31	$16.28	$15.81	$15.96
	metro			$2.59							
	suburban			$7.07							
	rural			$11.40							
Indiana	wtd. avg.	2,398	4%	$8.52	$5.85	$5.71	$0.05	$0.02	$12.20	$12.05	$16.87
	metro			$8.03							
	suburban			$8.15							
	rural			$8.99							
Michigan	wtd. avg.	5,629	10%	$10.16	$4.59	$4.09	$0.30	$0.25	$15.06	$14.50	$14.50
	metro			$8.47							
	suburban			$8.73							
	rural			$12.54							
Ohio	wtd. avg.	4,106	7%	$7.01	$7.80	$7.32	$0.64	$0.59	$15.45	$14.93	$14.96
	urban			$5.93							
	suburban			$7.97							
	rural			$9.52							
Wisconsin	wtd. avg.	2,294	4%	$10.90	$11.27	$10.13	$2.90	$2.82	$25.07	$23.85	$23.85
	suburban			$10.90							
	rural			$10.90							
LEC - Pacific Bell											
California	wtd. avg.	18,612	32%	$9.93	$6.37	$5.44	$0.08	$0.08	$16.78	$15.46	$27.47
	1			$8.38							
	2			$11.27							
	3			$19.64							
Nevada	wtd. avg.	389	1%	$20.52	$13.24	$10.02	$0.08	$0.08	$33.84	$30.63	$30.54
	urban			$11.77							
	suburban			$22.64							
	rural			$66.25							
LEC - Southwestern Bell											
Arkansas	wtd. avg.	1,071	2%	$13.09	$5.75	$5.61	$1.39	$1.26	$20.13	$19.96	$19.82
	urban			$11.86							
	suburban			$13.64							
	rural			$23.34							
Kansas	wtd. avg.	1,423	2%	$13.30	$5.75	$5.16	$1.30	$1.15	$20.35	$19.60	$19.49
	urban			$11.86							
	suburban			$13.64							
	rural			$23.34							
Missouri	wtd. avg.	2,742	5%	$15.19	$7.93	$7.36	$0.39	$0.27	$23.39	$22.71	$22.63
	urban			$12.71							
	suburban			$18.64							
	rural			$19.74							
	MO-Spgfld			$16.41							
Oklahoma	wtd. avg.	1,712	3%	$15.71	$8.45	$8.03	$1.37	$1.30	$25.53	$25.03	$24.88
	urban			$12.14							
	suburban			$13.65							
	rural			$26.25							
Texas	wtd. avg.	10,348	18%	$14.11	$6.36	$5.98	$1.24	$1.14	$21.71	$21.22	$21.16
	urban			$12.14							
	suburban			$13.65							
	rural-1			$18.98							

Source: Company Financial reports and regulatory filings including tariffs, interconnection agreements and ARMIS reports; CCMI estimates

EXHIBIT 4A: UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - SBC

STATE	LOOP RATE (per month)	PORT RATE (per month)	Local originating SWITCHING (per MOU)	Local terminating SWITCHING (per MOU)	OTHER SWITCHING AND TRANSPORT (per MOU)	DUF (per month) Assumes 1411 originating minutes	DUF (per month) Assumes DEM minutes	Other Switching and Transport (per month) Assumes 1411 originating minutes	Other Switching and Transport (per month) Assumes DEM minutes	FEATURE COST (per month)	AMORTIZED NRC (per month)	TOTAL DEM (per month, per line)
	KEY INPUTS					SUBTOTALS						
LEC - Ameritech												
Illinois	$9.55 $2.59 $7.07 $11.40	$5.01	na	na	$0.000947	$0.32	$0.23	$1.34	$0.95	$0.00	$0.08	1,764
Indiana	$8.32 $8.03 $8.15 $8.99	$2.98	$0.000000	$0.000000	$0.000617	$0.02	$0.01	$0.87	$0.73	$0.00	$0.01	2,071
Michigan	$10.16 $8.47 $8.73 $12.54	$2.53	$0.000522	$0.000522	$0.000548	$0.24	$0.18	$0.77	$0.58	$0.00	$0.07	1,869
Ohio	$7.01 $5.93 $7.97 $9.52	$4.63	$0.000820	$0.000826	$0.000800	$0.51	$0.27	$1.15	$0.96	$0.00	$0.35	2,097
Wisconsin	$10.90 $10.90 $10.90	$6.25	$0.001319	$0.001319	$0.001247	$0.55	$0.36	$1.76	$1.36	$0.00	$2.57	1,908
LEC - Pacific Bell												
California	$9.93 $8.58 $11.27 $19.64	$0.88	$0.001480	$0.001480	$0.000944	$0.00	$0.00	$1.33	$0.98	$0.90	$0.08	1,814
Nevada	$20.52 $11.77 $22.64 $66.25	$1.63	$0.001610	$0.001610	$0.005408	$0.00	$0.00	$2.63	$5.52	$0.00	$0.08	1,786
LEC - Southwestern Bell												
Arkansas	$13.09 $11.86 $13.64 $23.34	$1.61	$0.001490	$0.001490	$0.000326	$1.06	$1.02	$0.46	$0.44	$0.00	$0.23	2,386
Kansas	$13.30 $11.86 $13.64 $23.34	$1.61	$0.001490	$0.001490	$0.000326	$1.06	$0.91	$0.46	$0.39	$0.00	$0.34	2,115
Missouri	$15.19 $12.71 $18.64 $19.74 $16.41	$1.89	$0.002192	$0.002192	$0.000446	$0.00	$0.00	$0.63	$0.56	$0.00	$0.27	2,196
Oklahoma	$15.71 $12.14 $13.65 $26.23	$2.18	$0.002259	$0.002259	$0.000489	$1.06	$0.99	$0.69	$0.64	$0.00	$0.31	2,303
Texas	$14.11 $12.14 $13.65 $18.98	$2.22	$0.001507	$0.001507	$0.000299	$1.06	$0.96	$0.42	$0.38	$0.00	$0.18	2,238

Source: Company Financial reports and regulatory filings including tariffs, interconnection agreements and ARMIS reports; CCMI estimates

EXHIBIT 5: UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - VERIZON

STATE	DENSITY ZONES	ACCESS LINES (000s)	% of TOTAL ACCESS LINES	LOOP RATE (per month)	TOTAL SWITCHING AND TRANSPORT (per month) Assumes 1411 originating minutes	TOTAL SWITCHING AND TRANSPORT (per month) Assumes DEM minutes	ALL OTHER (per month) Assumes 1411 originating minutes	ALL OTHER (per month) Assumes DEM minutes	FULL UNEP ORIGINATING AND TERMINATING Assumes 1411 originating minutes	FULL UNEP ORIGINATING AND TERMINATING Assumes DEM minutes	MAY 2002 FULL UNEP ORIGINATING AND TERMINATING Assumes DEM minutes
				KEY INPUT	SUBTOTALS				TOTALS		
LEC - NYNEX											
Maine	Avg.	760	2%	$16.18	$7.25	$5.72	$0.18	$0.17	$23.61	$22.07	$22.18
	1			$11.44							
	2			$13.67							
	3			$18.75							
Massachusetts	Avg.	4,589	10%	$14.98	$12.91	$10.26	$0.19	$0.18	$28.08	$25.42	$25.77
	1			$7.54							
	2			$14.11							
	3			$16.12							
	4			$20.04							
New Hampshire	Avg.	825	2%	$18.10	$7.21	$6.03	$0.46	$0.38	$25.77	$24.51	$29.77
	1			$11.97							
	2			$16.06							
	3			$25.00							
New York	Avg.	12,253	27%	$11.49	$6.41	$5.59	$0.08	$0.08	$17.98	$17.17	$17.35
	1			$7.70							
	2			$11.31							
	3			$15.51							
Rhode Island	Avg.	681	2%	$13.93	$6.56	$5.73	$0.04	$0.03	$20.54	$19.70	$22.07
	1			$11.19							
	2			$15.44							
	3			$19.13							
Vermont	Avg.	378	1%	$14.41	$12.71	$10.54	$0.04	$0.03	$27.16	$24.99	$25.09
	1			$7.72							
	2			$8.35							
	3			$21.63							
LEC - BELL ATLANTIC											
D.C.	1	1,019	2%	$10.81	$9.94	$6.02	$0.00	$0.00	$20.75	$16.83	$16.83
Delaware	Avg.	613	1%	$12.05	$9.68	$8.09	$0.69	$0.66	$22.42	$20.81	$20.31
	1			$10.07							
	2			$13.13							
	3			$16.67							
Maryland	Avg.	4,101	9%	$14.50	$13.15	$11.50	$0.26	$0.25	$27.91	$26.35	$19.28
	1			$12.11							
	2			$12.85							
	3			$23.96							
	4			$18.40							
New Jersey	Avg.	7,030	16%	$9.52	$7.53	$5.55	$0.10	$0.07	$17.15	$15.14	$15.14
	1			$8.12							
	2			$9.59							
	3			$10.93							
Pennsylvania	Avg.	7,309	16%	$13.81	$6.49	$5.25	$0.20	$0.17	$20.50	$19.23	$19.36
	1			$10.25							
	2			$11.00							
	3			$14.00							
	4			$16.35							
Virginia	Avg.	4,460	10%	$13.76	$9.56	$7.57	$0.54	$0.52	$23.86	$21.85	$21.68
	1			$10.74							
	2			$16.45							
	3			$29.40							
West Virginia	Avg.	907	2%	$24.58	$20.82	$19.32	$0.13	$0.12	$45.52	$44.02	$44.02
	1			$14.49							
	2			$22.04							
	3			$43.44							

Source: Company Financial reports and regulatory filings including tariffs, interconnection agreements and ARMIS reports; CCMI estimates.

EXHIBIT 5A: UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX SUMMARY - VERIZON

STATE	LOOP RATE (per month)	PORT RATE (per month)	Local originating SWITCHING (per MOU)	Local terminating SWITCHING (per MOU)	OTHER SWITCHING AND TRANSPORT (per MOU)	DUF (per month) Assumes 1411 originating minutes	DUF (per month) Assumes DEM minutes	Other Switching and Transport (per month) Assumes 1411 originating minutes	Other Switching and Transport (per month) Assumes DEM minutes	FEATURE COST (per month)	AMORTIZED NRC (per month)	TOTAL DEM (per line, per month)
	KEY INPUTS					SUBTOTALS						
LEC - NYNEX												
Maine	$16.18 $11.44 $13.47 $18.75	$0.94	$0.001680	$0.001680	$0.001529	$0.04	$0.03	$2.16	$1.64	$0.00	$0.14	1,871
Massachusetts	$14.98 $7.54 $14.11 $16.12 $20.04	$2.00	$0.003537	$0.003537	$0.001540	$0.04	$0.03	$2.17	$1.65	$0.00	$0.15	1,870
New Hampshire	$18.10 $11.97 $16.04 $25.00	$0.71	$0.002064	$0.002064	$0.000853	$0.43	$0.35	$1.20	$0.98	$0.20	$0.03	2,007
New York	$11.49 $7.70 $11.31 $15.31	$2.57	$0.001147	$0.001111	$0.000578	$0.00	$0.00	$0.82	$0.63	$0.23	$0.08	1,910
Rhode Island	$15.93 $11.19 $15.44 $19.13	$1.86	$0.001358	$0.001192	$0.000853	$0.04	$0.03	$1.20	$0.98	$0.32	$0.00	2,000
Vermont	$14.41 $7.72 $8.35 $21.63	$1.03	$0.004003	$0.004003	$0.001228	$0.04	$0.03	$1.75	$1.41	$0.06	$0.60	2,009
LEC - BELL ATLANTIC												
D.C.	$10.81	$1.55	$0.003000	$0.003000	$0.000696	$0.00	$0.00	$0.98	$0.52	$0.00	$0.00	1,317
Delaware	$12.05 $10.07 $13.13 $16.67	$2.23	$0.003634	$0.001937	$0.000200	$0.13	$0.10	$0.28	$0.22	$0.00	$0.56	1,944
Maryland	$14.50 $12.11 $12.85 $25.96 $18.40	$1.50	$0.003800	$0.003800	$0.000362	$0.05	$0.04	$0.51	$0.43	$1.36	$0.22	2,058
New Jersey	$9.52 $8.12 $9.59 $10.92	$0.71	$0.002775	$0.002508	$0.000163	$0.10	$0.07	$0.23	$0.16	$0.00	$0.00	1,751
Pennsylvania	$13.81 $10.25 $11.00 $14.00 $16.75	$1.90	$0.001802	$0.001615	$0.000242	$0.09	$0.07	$0.34	$0.25	$0.00	$0.11	1,799
Virginia	$13.76 $10.74 $16.45 $29.40	$1.30	$0.004129	$0.002079	$0.000162	$0.09	$0.07	$0.23	$0.17	$0.00	$0.46	1,874
West Virginia	$24.58 $14.49 $22.04 $43.44	$1.60	$0.008868	$0.005622	$0.000536	$0.13	$0.12	$0.76	$0.70	$0.00	$0.00	2,277

Source: Company Financial reports and regulatory filings including tariffs, interconnection agreements and ARMIS reports, CCMI estimates.

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